

Exhibit 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS
AMERICA, INC., AND APPLE, INC.,
Petitioner,

v.

NEONODE SMARTPHONE LLC,
Patent Owner.

Case IPR2021-00144
Patent 8,095,879

EXHIBIT 2007

SECOND DECLARATION OF CRAIG ROSENBERG, PH.D.

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I. INTRODUCTION

I, Craig Rosenberg, declare as follows:

1. I have been retained on behalf of Neonode Smartphone LLC (“Neonode” and/or “Patent Owner”) for the above-captioned *inter partes* review to provide my expert opinions and expert knowledge. I understand that this proceeding involves U.S. Patent No. 8,095,879 (“the ’879 patent”). I understand that the ’879 patent is currently assigned to Neonode.

2. I understand that the present Petition for *inter partes* review challenges claims 1-6, 12, 14-17 (“the challenged claims” or “claims”) of the ’879 patent and was filed by Petitioners Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., and Apple Inc. (“Petitioner”).

3. I understand that while the Petition originally presented Grounds 1A-1E, 2A-2D and 3, Patent Owner and Petitioners have since agreed to limit the Petition to Grounds 2A-2D only and, therefore, my opinions in this declaration are limited to these Grounds.

4. I have been asked to provide my independent review, analysis, insights, and opinions regarding technical aspects of the ’879 patent and the Petition challenging the patentability of its claims. In particular, I have been asked to provide my analysis, insights, and opinions regarding the state of the art at the

time of the alleged invention and how a person of ordinary skill in the art would have understood the '443 patent disclosure at that time.

5. In preparing this declaration, I have reviewed all of the references cited herein and in the Petition. In particular, I have reviewed and am familiar with the '879 patent and its prosecution history, and the references cited against it, discussed further below.

6. In this declaration, I set forth the independent opinions that I have reached and the basis for those opinions in view of the information currently available to me. Such opinions are based, at least in part, on my experience for the past three decades with image and video processing, including encoding, decoding, and transmission. I reserve the right to supplement or revise my opinions should additional documents or other information be provided to me.

7. I am being compensated at an hourly rate of \$450/hour for my work on this case. My compensation is not dependent upon my opinions, my testimony, or the outcome of this case.

II. QUALIFICATIONS

8. All of my opinions stated in this declaration are based on my own personal knowledge and professional judgment. In forming my opinions I have relied on my knowledge and experience in human factors, user interface design, user interaction design, human-computer interaction, and software engineering.

9. My qualifications to testify about the '879 patent and the relevant technology are set forth in my curriculum vitae ("CV"), which I have included as Ex. 2002. In addition, a brief summary of my qualifications is included below:

10. I hold a Bachelor of Science in Industrial Engineering, a Master of Science in Human Factors, and a Ph.D. in Human Factors from the University of Washington School of Engineering. For 30 years, I have worked in the areas of human factors, user interface design, software development, software architecture, systems engineering, and modeling and simulation across a wide variety of application areas, including aerospace, communications, entertainment, and healthcare.

11. I graduated from the University of Washington in 1988 with a B.S. in Industrial Engineering. After graduation, I continued my studies at the University of Washington. In 1990, I obtained an M.S. in Human Factors. In 1994, I graduated with a Ph.D. in Human Factors. In the course of my doctoral studies, I worked as an Associate Assistant Human Factors Professor at the University of Washington Industrial Engineering Department. My duties included teaching, writing research proposals, designing and conducting funded human factors experiments for the National Science Foundation, as well as hiring and supervising students. While studying at the University of Washington, I also worked as a human factors researcher and designed and performed advanced human factors experiments

relating to virtual environments and interface design, stereoscopic displays, and advanced visualization research, which was funded by the National Science Foundation. My duties included user interface design, systems design, software development, graphics programming, experimental design, as well as hardware and software interfacing.

12. I have published twenty-one research papers in professional journals and proceedings in the areas of user interface design, computer graphics, and the design of spatial, stereographic, and auditory displays. I also authored a book chapter on augmented reality displays in the book “Virtual Environments and Advanced Interface Design” (Oxford University Press, 1995). In addition, I created one of the first virtual spatial musical instruments called the MIDIBIRD that utilized the MIDI protocol, two six-dimensional spatial trackers, a music synthesizer, and a computer graphics workstation to create an advanced and novel musical instrument.

13. For the past 21 years, I have served as a consultant for Global Technica, Sunny Day Software, Stanley Associates, Tchrizon, CDI Corporation, and the Barr Group. In this capacity, I have provided advanced engineering services for many companies.

14. I consulted for the Boeing Company for over 16 years as a senior human factors engineer, user interface designer, and software architect for a wide range of advanced commercial and military programs. Many of the projects that I have been

involved with include advanced software development, user interface design, agent-based software, and modeling and simulations in the areas of missile defense, homeland security, battle command management, computer aided design, networking and communications, air traffic control, location-based services, and Unmanned Aerial Vehicle (“UAV”) command and control. Additionally, I was the lead system architect developing advanced air traffic controller workstations and air traffic control analysis applications, toolsets, and trade study simulations for Boeing Air Traffic Management.

15. I was also the architect of the Boeing Human Agent Model. The Boeing Human Agent Model is an advanced model for the simulation of human sensory, cognitive, and motor performance as applied to the roles of air traffic controllers, pilots, and UAV operators. In another project, I was the lead human factors engineer and user interface designer for Boeing’s main vector and raster computer aided drafting and editing system that produces the maintenance manuals, shop floor illustrations, and service bulletins for aircraft produced by the Boeing Commercial Aircraft Company. Additional responsibilities in my time as a consultant include system engineering, requirements analysis, functional specification, use case development, user stories, application prototyping, modeling and simulation, object-oriented software architecture, graphical user interface analysis and design, as well as UML, C++, C#, and Java software development.

16. In 1995 and 1996, I was hired as the lead human factors engineer and user interface designer for the first two-way pager produced by AT&T. Prior to this technology, people could receive pages but had no way to respond utilizing their pager. This new technology allowed users to use a small handheld device to receive and send canned or custom text messages, access and update an address book, and access and update a personal calendar. This high-profile project involved designing the entire feature set, user interface/user interaction design and specification, as well as all graphical design and graphical design standards.

17. From 1999–2001, I was the lead human factors engineer and user interface designer for a company called Eyematic Interfaces that was responsible for all user interface design and development activities associated with real-time mobile handheld 3D facial tracking, animation, avatar creation and editing software for a product for Mattel. My work involved user interface design, human factors analysis, requirements gathering and analysis, and functional specifications.

18. In 2001, I was the lead user interface designer for a company called Ahaza that was building IPv6 routers. I designed the user interfaces for the configuration and control of these advanced network hardware devices. My responsibilities included requirements analysis, functional specification, user interface design, user experience design, and human factors analysis.

19. In 2006-07, I was the lead user interface designer for a company called ObjectSpeed that developed a portable handheld telephone for use in homes and businesses that had many of the same capabilities that we take for granted in mobile cellular phones. This portable multifunction device supported voice, email, chat, video conferencing, internet radio, streaming media, Microsoft Outlook integration, photo taking and sharing, etc. The ObjectSpeed device was specifically designed and developed as a portable handheld device.

20. I am the founder, inventor, user interface designer, and software architect of WhereWuz. WhereWuz is a company that produces advanced mobile software running on GPS-enabled smartphones and handheld devices. WhereWuz allows users to record exactly where they have been and query this data in unique ways for subsequent retrieval based on time or location. WhereWuz was specifically designed and developed to run on small handheld devices.

21. I am the co-founder of a medical technology company called Healium. Healium developed advanced wearable and handheld user interface technology to allow physicians to more effectively interact with electronic medical records.

22. I am the co-founder of a medical technology company called StratoScientific. StratoScientific is developing an innovative case for a smartphone that turns a standard handheld smartphone into a full featured digital stethoscope that

incorporates visualization and machine learning that can be utilized for telemedicine and automated diagnosis.

23. In 2012-13, I designed and developed a large software project for Disney World called xVR that allowed the operational employees of Disney World to utilize a handheld device to view the current and historical status of all of the guests of Disney World within multiple attractions as well as within one of their restaurants. The application could run in a real-time/live mode where it would display data collected from sensors that showed the location and status of all guests within the attraction; the application could also be run in a fast-time/simulated mode. The application was developed on a laptop computer and was specifically designed to run on a variety of devices, including laptops, PCs, smartphones, and tablets.

24. I have received several awards for my engineering work relating to interface design, computer graphics, and the design of spatial, stereographic, and auditory displays, including a \$10,000 scholarship from the I/ITSEC for advancing the field of interactive computer graphics for flight simulation and a Link Foundation award for furthering the field of flight simulation and virtual interface design. I have also created graphics for several popular book covers as well as animations for a movie produced by MIRAMAR.

III. APPLICABLE LEGAL STANDARDS

25. When considering the '879 patent and stating my opinions, I rely on the following legal standards as described to me by the attorneys for Neonode.

A. Priority Date of the Patent

26. I understand that the analysis of alleged obviousness of the Patent should be performed from the perspective of a POSITA as of the priority date of the Patent. The Patent was filed on December 10, 2002. My opinions in this matter are from the perspective of a POSITA as of that date; however, my opinions do not change if the priority date is slightly changed.

B. Level of Ordinary Skill in the Art

27. I understand that various factors should be considered when determining the person of ordinary skill in the art in connection with a particular patent. I understand that these include, without limitation: (a) the educational level of the inventors and that of practitioners and other inventors in the art (e.g., degrees, subjects, etc.); (b) the type of problems encountered in the art; (c) prior art solutions to such problems; (d) the speed at which innovations are made in the art; and (e) the sophistication of the invention.

28. Dr. Bederson opines that a "POSA for the '879 patent would have had at least a bachelor's degree in computer science, computer engineering, or the equivalent education and at least two years of experience in user-interface design

and development. Additional years of experience could substitute for formal education, and vice versa.” For the purpose of this declaration, I will apply the same definition of the level of skill of a POSITA.

29. Based on my experience, education, and training, I met the definition of a POSITA in December of 2002, the time of filing of the application that issued as the ’879 Patent. I also had greater knowledge and experience than a POSITA. I worked with POSAs in 2002, and I am able to render opinions from the perspective of a POSITA based on my knowledge and experience. My opinions concerning the ’879 Patent claims and the prior art are from the perspective of a POSITA, as set forth above.

30. As further discussed below, my opinions as stated in this declaration are valid even if the Board adopts a slightly different level of ordinary skill in the art.

C. My Understanding of Legal Standards

31. I understand that a patent claim is unpatentable if the claimed invention would have been obvious to a person of ordinary skill in the art at the time of the purported invention.

32. I understand that an obviousness analysis involves comparing a claim to the prior art to determine whether the claimed invention would have been obvious to a person of ordinary skill in the art at the time of the invention in view

of the prior art and in light of the general knowledge in the art as a whole. I also understand that obviousness is ultimately a legal conclusion based on underlying facts of four general types, all of which must be considered: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) any objective indicia of non-obviousness.

33. I also understand that obviousness may be established under certain circumstances by combining or modifying the teachings of the prior art. Specific teachings, suggestions, or motivations to combine any first prior art reference with a second prior art reference can be explicit or implicit, but must have existed before the date of purported invention. I understand that prior art references themselves may be one source of a specific teaching or suggestion to combine features of the prior art, but that such suggestions or motivations to combine art may come from the knowledge that a person of ordinary skill in the art would have had.

34. I understand that a reference may be relied upon for all that it teaches, including uses beyond its primary purpose, but also including teachings that lead away from the invention. I understand that a reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged

from following the path set out in the reference, although the mere disclosure of alternative designs does not teach away.

35. I further understand that whether there is a reasonable expectation of success from combining references in a particular way is also relevant to the analysis.

36. I understand that it is improper to use hindsight to combine references or elements of references to reconstruct the invention using the claims as a guide. My analysis of the prior art is made from the perspective of a person of ordinary skill in the art at the time of the invention.

37. I am not offering any legal opinions in this declaration nor am I qualified to do so. I only consider such legal standards in framing my opinions and conclusions as well as placing assertions made by Petitioner in the Petition into the proper context. Additionally, from a subject matter perspective, I understand that the petitioner always has the burden of persuasion regarding a challenge of patentability of an invention under an inter partes review.

IV. OPINIONS

A. Objective Evidence Of Non-Obviousness.

38. I understand that Neonode's N1 phone was introduced in Spring 2002 and commercially sold starting in 2004. I further understand that Neonode's N2 phone was sold starting in 2007. Ex. 2022, ¶ 6.

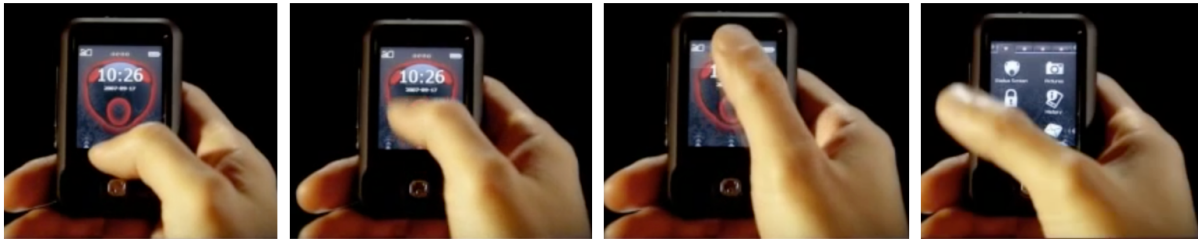
39. I have reviewed Neonode’s promotional material, which highlight the phone’s swipe-based user interface. Neonode specifically touted its “specially designed interface” that allows “you to easily access the different applications with simple sweeping gestures ... on the screen.” Ex. 2008 [N2 Advertisement Video] (00:27-00:35); *see also id.*, (00:45-00:51) (“And you can easily access all of the Neonode N2’s content using the seven available sweeps.”). As Neonode explained, “there is nothing else you need other than your intuition.” *Id.*, (01:25-01:27).

40. From my review of Neonode’s promotional video and other materials, the “swipe” gesture of Neonode’s user interfaces in the N1 and N2 phones is covered by claim 1. The claimed inventions concern a user interface for a mobile handheld computer unit that includes a touch sensitive area that includes a representation of a function wherein the representation consists of only one option for activating the function wherein an object (*e.g.*, a finger) touches the touch sensitive area where the representation is provided and then the “object,” the finger in our example, “*glid[es] along the touch sensitive area away* from the touched location, wherein the representation of the function is not relocated or duplicated *during the gliding*.” I have also reviewed the Shain Declaration (Ex. 2023), and his testimony further confirms that the N1 and N2 devices practiced the claim 1 limitations:

Both the Neonode N1 and N2 presented three icons in a strip along the lower edge of the display immediately following unlocking of the phone. One of the icons represented the Start Menu, one represented

the Keyboard Menu, and the third represented the Tools Menu. Each of the icons consisted of only one option for activating the associated function. Each of the icons were activatable by a gesture in which a thumb or finger touches the icon, and swipes up toward the center of the screen before lifting off of the screen. None of the icons were relocated or duplicated during the swiping gesture.

41. The Applicant also equated the “gliding ... away” motion with “swiping.” Ex. 1003 [Prosecution-History] 269 (“a finger touches a touch-sensitive screen at a location where an icon for a function is displayed, and then rubs/swipes/glides along the touch screen away from the location without lifting the finger.”). The Applicant also specifically referenced and provided a link to its promotional video for a commercial embodiment, the Neonode N2 phone, and asked the Examiner to “view the demonstration video ... prior to reviewing Applicant’s arguments” Ex. 2035 [2008-03-14 Office-Action-Response] 15-16; Ex. 2008 [N2-Advertisement-Video]. As the screen shots below from the video show, the “gliding ... away” gesture is similar to what many of today’s systems refer to as a “swipe” gesture and is distinct from a drag-and-drop operation. Specifically, the thumb is placed on a representation of a function (an arrow) and through a swiping motion, the menu screen opens:



See Ex. 2008 [N2-Advertisement-Video] (screenshots from 00:26-00:27).

42. Such gliding corresponds to what is shown, for instance, in Figure 2 which shows a thumb gliding along the touchscreen:

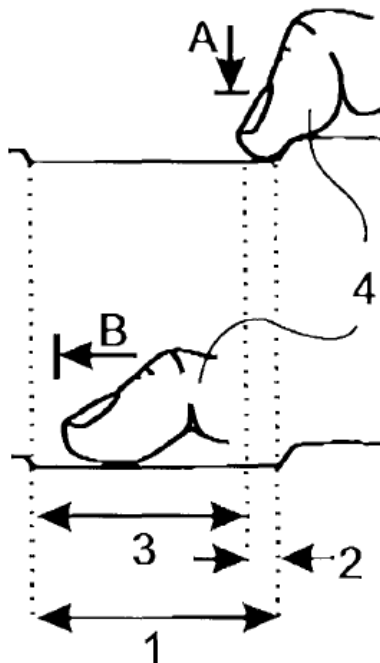


Fig. 2.

43. I further have reviewed material showing praise for Neonode’s swiping user interface. For example, Pen Computing Magazine described Neonode N1 phone’s swipe as “simple and brilliant” and different from the “dreaded gestures” of the pen computing devices (like Petitioner’s Hirayama-307):

Swipe, swipe, swipe

You see, instead of the usual menus and pulldowns, most operations are performed by sweeps of your finger—usually your thumb—across the surface of the Neonode’s display. [...] *If this sounds like the dreaded “gestures” that never really caught on in pen computing, it’s not.* The swipes are much simpler, there are only a few, and they are consistently used throughout all applications. The idea here is to let you hold a phone in the palm of your hand and operate it entirely with your thumb. *No need to* push buttons, view tiny menus, *pull out a tiny stylus*, or use scroll wheels, rockers or other such vexing miniature controls. [...] *Neonode’s swiping interface is [] simple and brilliant.*

Ex. 2012, 2-3; *id.*, 5 (“What’s the bottomline? *The Neonode phone is quite obviously unique, ... The user interface is compelling* and it’s easy to see how just a bit more development could provide almost total consistency and thus *a user experience simpler than pretty much anything else that comes to mind. The speed is simply amazing. That’s the way a phone should operate.*”).

44. I have also reviewed material showing praise of Neonode’s swipe-based user interface by various technology observers. Exs. 2014 (“I’ve been playing with my N1m on and off, and I’m very impressed! It’s definitely a best kept secret device – Neonode’s touch-based user interface with gesture recognition ... is extremely intuitive ...”); 2016 (“[The N2] has the most advanced touchscreen available, and has no buttons ... ‘Neonode N2 is designed for advanced simplicity. You do

everything on-screen, simply and conveniently, with just one finger, Infibeam says. ‘The combination of an optical touch screen and specifically designed user interface makes access to all features and content of your Neonode N2 both quick and easy.’”); 2015, 2017; Ex. 2021 [Hunting the iPhone killer; Swedish Neonode generates buzz for device] (“the N2 from Neonode Inc. – is the strongest contender for the title of ‘iPhone killer,’ ... ‘They’ve come out with a kick-ass device’... the [N1’s] screen reacts to the intuitive passage of a finger over the screen to initiate basic phone, Web browser and multimedia functions.”).

45. I have also reviewed testimony that Senior management at Samsung’s mobile telecom division were extremely impressed by Neonode’s N1, and in early 2005 began discussions with Neonode about licensing the N1’s gesture-based user interface and touch screen technology. Ex. 2026, ¶ 9. Ki-Tai Lee (K. T. Lee), head of Samsung’s mobile telecom division, presciently told Neonode that he believed Neonode’s intuitive user interface was “the future of mobile phones.” *Id.* Neonode had many hours of meetings with Samsung, including a meeting in London, attended by Marcus Bäcklund, Thomas Ericsson, and Per Bystedt. *Id.* Mr. Lee told Samsung’s negotiators—in Neonode’s presence—that “we need this,” referring to the Neonode’s N1 gesture-based user interface and the license for the user interface. *Id.* I further understand that Samsung subsequently signed a licensing agreement with Neonode in 2005, and the licensing agreement covered, among other things,

the application that ultimately issued as the '879 patent. Ex. 2026, ¶ 10; Ex. 2024, ¶¶ 13-14.

46. I have further reviewed evidence demonstrating the belief among the technology observers that when Apple introduced the first iPhone in 2007, its swiping gestures resembled that of Neonode. For example, Pen Computing Magazine wrote:

Listening to Apple's claims of all the patents covering the iPhone's user interface one might assume the iPhone broke completely new ground and went where no phone had ever gone before.

That is not entirely so. Neonode, a small Swedish company ... announced the Neonode N1 back in 2002. ... It did not use a stylus either. Instead, it used a swipe and tap system on a novel touch screen that used a grid of infrared beams to sense finger movement.

... And if the iPhone's swipes and taps seem futuristic, they are not. Neonode has been using them since the first N1 came out. In fact, the company's Neno user interface is based entirely on swipes and taps.

Ex. 2013, 1. The author followed,

[I]t must be vexing to see Apple essentially claim ownership of concepts the Neonode phone has been using for at least five years.

Ex. 2013, 9.

47. I have also reviewed a Ph.D. dissertation and a Master's thesis that described Neonode as "the first smartphone to use a touchscreen as primary input

and to support touch gestures for several functions,” (Ex. 2018, 9), and “The Neonode N1 was the first commercially available mobile device to make extensive use of swipe gestures appropriate for one-handed use, including a browser that scrolled content vertically with swipes,” (Ex. 2020, 8).

48. I have also reviewed testimony about commercial sales of Neonode phones, explaining that Neonode sold tens of thousands of its N1 and N2 phones to various operators around the world, including Mexico, Belgium and India. Ex. 2022, ¶ 6; Ex. 2025; Ex. 2028; Ex. 2026, ¶ 11; Ex. 2024, ¶¶ 8-10. I understand that, as a small startup company without the backing of any major carrier, and with limited manufacturing experience, Neonode phones were priced up to \$1,000, which is many times more expensive than the typical luxury phones of its time. *Id.*

49. The above evidence, showing praise by industry observers, competitors and users, further support my conclusions below that the claims were not obvious at the time of the invention.

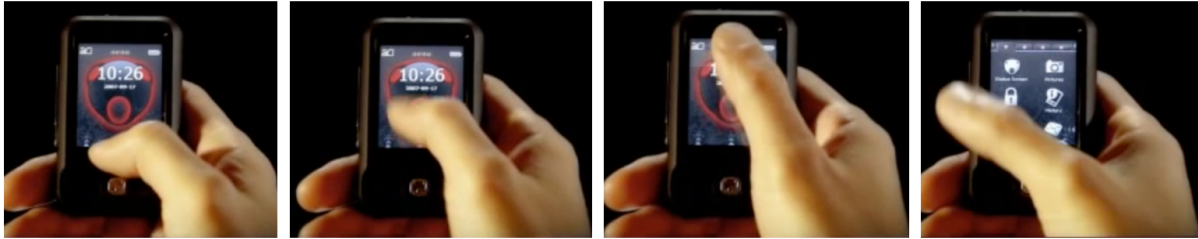
B. Claim 1 (And All Dependents): “Gliding ... Away”

50. The claims require “activating [a] function” via a “multi-step operation comprising (i) an object touching the touch sensitive area at a location where the representation is provided and then (ii) *the object gliding along the touch sensitive area away from the touched location ...*” Ex. 1001 [’879] cl. 1.

51. The pending claims during prosecution originally recited “*moving* in a direction *from* a starting point that is the representation [of a function] ... *to* said display area.” Ex. 1003 [Prosecution History] 326. However, “in accordance with the conclusions of [an examiner] interview” and in order to “properly claim the present invention,” the claims were amended to recite the specific gesture of “*gliding* ... *away* from the location [of the representation of a function].” *Id.*, 343. Thus, the claim was altered from any “moving in a direction from a starting point” to a specific gesture, “gliding ... away” to “properly claim the present invention.”

52. The Applicant also equated the “gliding ... away” motion with “swiping.” Ex. 1003 [Prosecution History] 269 (“a finger touches a touch-sensitive screen at a location where an icon for a function is displayed, and then rubs/swipes/glides along the touch screen away from the location without lifting the finger.”). The Applicant also specifically referenced and provided a link to its promotional video for a commercial embodiment, the Neonode N2 phone, and asked the Examiner to “view the demonstration video ... prior to reviewing Applicant’s arguments” Ex. 2035 [2008-03-4 Office-Action-Response] 15-16; Ex. 2008 [N2 Advertisement Video]. As the screen shots below from the video show, the “gliding ... away” gesture is similar to what many today’s systems refer to as a “swipe” gesture and is distinct from a drag-and-drop operation. Specifically, the thumb is

placed on a representation of a function (an arrow) and through a swipe motion, the menu screen opens:



See Ex. 2008 [N2 Advertisement Video] (screenshots from 00:26-00:27).

53. The specification similarly demonstrates a swipe motion. See Ex. 1001 [’879] Fig. 2, 4:7-11.

54. During prosecution, the Applicant also made it clear that the claimed “gliding ... away” is distinct from “drag-and-drop”:

Hoshino does not teach gliding a finger away from an icon. Instead, Hoshino teaches a drag-and-drop operation for moving an icon.

Ex. 1003 [Prosecution-History] 171.

55. In accord, the Applicant distinguished Hoshino’s “conventional” “drag-and-drop” “operation” from the “novel” “touch-and-glide” operation of the “[c]laimed invention”:

Some distinctions between claimed invention and Hoshino		
	Claimed invention	Hoshino
Objective	Novel touch-and-glide user interface operation	Discriminate between two conventional operations; namely, (1) touch, and (2) drag-and-drop

Id., 170.

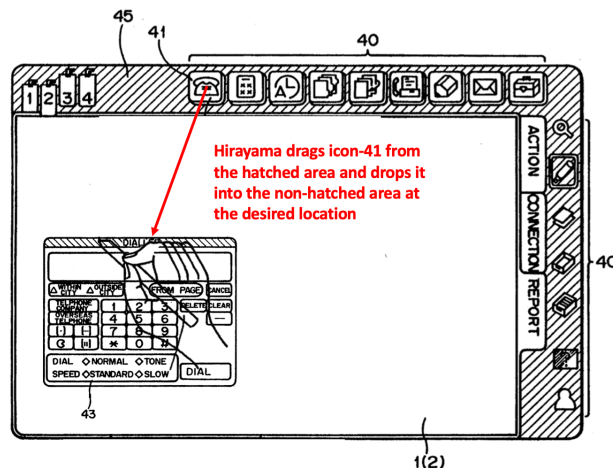
56. I understand that when an Applicant makes unequivocal statement about what is not included in the scope of the claim, courts have found such statements to be prosecution disclaimers, which means that the claim should be interpreted to exclude the disavowed aspect. I further understand that regardless of whether or not the applicant's statements during prosecution raise to the level of prosecution disclaimer, they are relevant in informing the POSITA regarding the meaning and scope of the claims.

57. Based on my overall review of the claim language, the specification and the prosecution history, it is my opinion that a POSITA would have understood that "gliding ... away" does not encompass a drag-and-drop operation.

58. The Petition relies on Hirayama-307 alone for the disclosure of the "gliding ... away" limitation. Pet., 58-59. Hirayama-307 was already analyzed by the Examiner, who explained that Hirayama-307 is "pertinent to applicant's disclosure," as it "teaches a method of activating functions." Ex. 2009 [2006-03-23 Non-Final Rejection] 15. Yet, the Examiner never relied upon Hirayama-307 as a basis of rejection.

59. Hirayama-307's operation is a "conventional" drag-and-drop "operation" referenced by the Applicant during prosecution. Specifically, when the user wishes to use Hirayama-307's dialing application, he/she moves the stylus to the application icon 41. Ex. 1006 [Hirayama-307] 2:1-4; 5:30-32. The user then

drags the icon outside of the hatched area, into the non-hatched area. *Id.*, 2:5-8; 5:39-53. As the icon 41 is dragged outside of the hatched area, it is “enlarged as a window 43.” *Id.*, 2:8-13; 5:59-66. The enlarged window 43 is then placed (*i.e.*, dropped) at the location within the non-hatched area where the user lifts the stylus. *Id.*, 2:8-13; 5:59-66.¹ I have visually demonstrated Hirayama’307’s drag-and-drop process in the figure below that I have created based on Hirayama-307’s written description of its method:



60. That Hirayama-307 changes the size of icon 41 into an enlarged window 43 does not change the nature of its operation as a drag-and-drop operation. Many

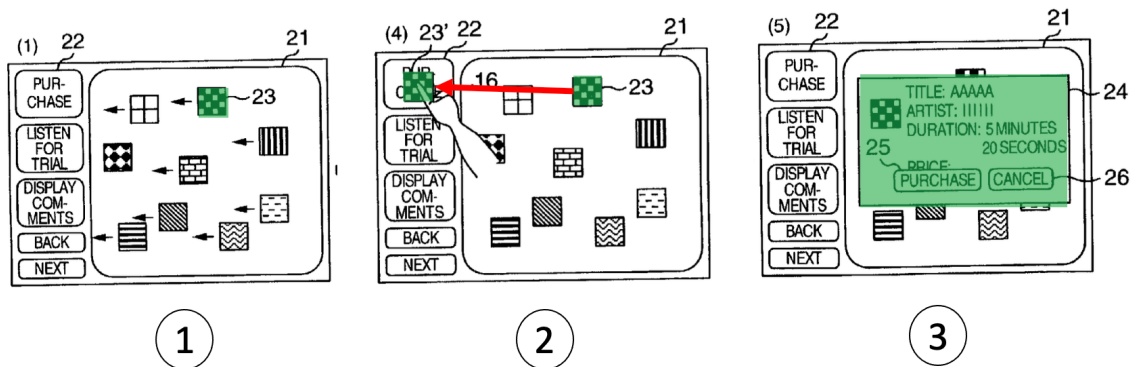
¹ While Hirayama-307 states that the “enlarg[ing]” of icon 41 into window 43 can occur either “if the pen coordinate is considerably shifted from the reference moving amount,” or “if the pen coordinate is outside of the predetermined designated area (*e.g.*, the hatched area in this embodiment)” *id.*, 5:59-63, a POSITA would understand that only the latter alternative is feasible in the context of Hirayama-307’s disclosed user interface. This is because the icon 41/window 43 follows the stylus so that the enlarged window 43 can be located at the position identified by the user, *id.*, 2:8-13; 5:59-66, and, the enlarged window cannot be placed within the hatched area of Hirayama-307.

drag-and-drop operations may result in a change in the graphical user display of the item being dragged as a result of drag-and-drop. For example, a file may be dragged across the screen into an open application window, which results in the file opening. As another example, when a file is dragged from the desktop into the trash bin of an operating system, the icon may change its appearance inside the trash bin. As another example, the prosecution Hoshino (*see infra*) also opened a new window as a result of the drag-and-drop gesture.

61. It should also be noted that while Petitioner disputes whether Hirayama-307 provides feedback to the user by visually showing icon 41 as being dragged during the entirety of the dragging process, Pet., 60-62, this is irrelevant to the fact that Hirayama-307's gesture is a drag-and-drop operation. From the perspective of the user, some form of Hirayama-307's dialing application is logically dragged (and behaves as if it is being logically dragged) with the movement of the stylus, and is dropped at the location where the stylus leaves the screen. It is true that, as I will explain in paragraphs 81-82, it was (and is) preferable in most instances to have an icon be visually shown as moving or being duplicated during "drag-and-drop" as the user moves the stylus/finger in order to provide feedback to the user. However, if a GUI, for any reason, does not provide interim feedback to the user by visually showing the icon actually moving with the stylus/finger, that does not change the nature of the operation as a drag-and-drop operation.

62. Hirayama-307's drag-and-drop operation is also functionally identical to the drag-and-drop operation disclosed by the prosecution Hoshino reference to activate an icon, which the Applicant during prosecution explained "does not teach gliding a finger away from an icon," but "[i]nstead, Hoshino teaches a drag-and-drop operation for moving an icon." Ex. 1003 [Prosecution History] 171. Specifically, as shown in the schematic annotation of Hoshino Fig. 19 below, item 23 in Hoshino is music content which the user may wish to, for example, play or purchase. Ex. 2010 [Hoshino] ¶ [0110]. The user activates the file for playback or purchase by dragging it into the corresponding box that states "purchase" or "listen for trial." Ex. 2010 [Hoshino] ¶¶ [0111]-[0114].

Hoshino Fig. 19 (partial)



63. As is apparent from the above, Hoshino's user activates a music icon by dragging the icon to a designated area, resulting in a larger window opening.

64. This is basically the same as Hirayama-307's operation. Hirayama-307's user similarly opens an icon 41 window by dragging the icon into the non-hatched area at the location where the user wishes the enlarged window to be placed.

65. The distinction between "gliding ... away" and a drag-and-drop gesture is material, even though they may have overlapping movements. In the field of human computer interaction, even small differences between gestures can have substantial consequences. Notably, and as discussed in greater detail in paragraphs 38-49 Neonode's N1 and N2 phones were widely praised for their intuitive gliding feature. *See also, e.g.*, Exs. 2012, 2013 (praising the swiping feature, calling it "simple and brilliant"). It is most unlikely that Neonode's phones would have received such praise if they replaced their seamless gliding functionality with a cumbersome drag-and-drop operation as shown in Hirayama-307.

66. That small differences matter is also evident in Petitioner's Ren reference. Two of the gestures analyzed by Ren are "Slide Touch" and "Slide Off." Ex. 1004 [Ren] 389-390. Even though both gestures include dragging a stylus on the screen to select an item, they are different in that in a "Slide Touch," the stylus lands outside of the icon, is dragged to the icon, and then removed from the screen. *Id.* In contrast, in a "Slide Off," the stylus lands on the icon, and is dragged outside of the icon, and is then removed from the screen. *Id.* Therefore, the two gestures can be identical in the stylus movement, but different only in where the stylus lands

on, and is removed, from the screen. Despite this seemingly small difference, Ren was able to objectively and conclusively determine that “[t]he results showed that the Slide Touch strategy was the best of the six, in terms of selection time (Figure 5), error rate (Figure 6), and subject preference (Figure 9).” *Id.*, 402.

67. Similarly, even though both the claimed “gliding ... away” gesture and a drag-and-drop operation may include movement of the stylus/finger on the screen, which may even happen to start and end at similar positions on the screen, they are fundamentally different with pronounced differences for the user. In a drag-and-drop operation, the user generally perceives some form of an object/function as behaving as if it is being dragged by the movement of the stylus/pen. Sometimes an operating system provides visual feedback by actually showing the object moving on the screen together with the stylus/pen.

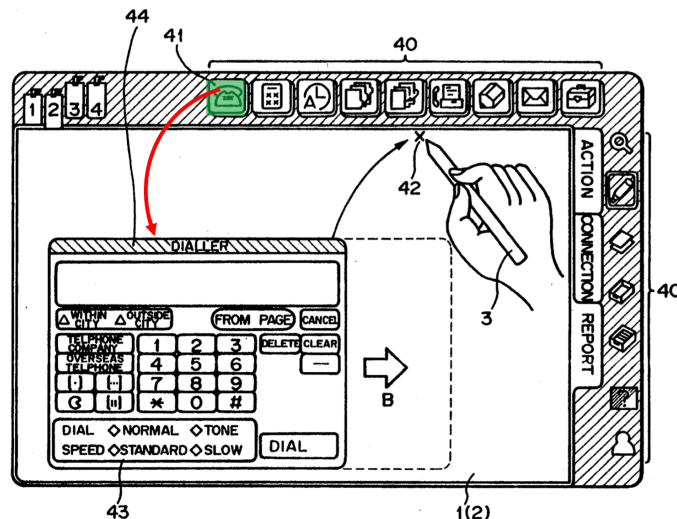
C. Claim 1 (And All Dependents): “Wherein The Representation Of The Function Is Not Relocated Or Duplicated”

68. The claims require that “the representation of the function is not relocated or duplicated during the gliding” of the object (*e.g.*, finger). Petitioner presents two alternative theories for why this limitation is obvious. First, the Petition relies on Hirayama-307 alone to argue that this limitation was obvious. Pet., 60. Alternatively, the Petition argues that a POSITA would have been motivated to import Ren’s “Slide-Off” selection technique into Hirayama-307 instead of

Hirayama-307's drag-and-drop operation. As I will explain below, both theories are incorrect.

1. Disclosure By Hirayama-307 Alone.

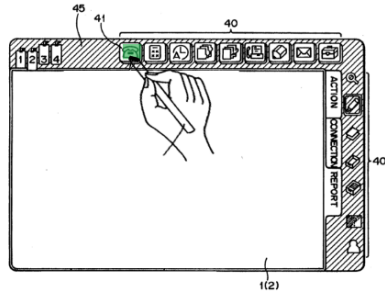
69. As shown in the annotated figure blow, the Petition (at 53, 60) maps Hirayama-307's icon 41 (green) for a telephone application to the claimed "representation of a function," and maps (Pet., 58-60) the user's drag-and-drop operation (red arrow) to enlarge icon 41 into the window 43, and position the window 43 on the screen, to the claimed "gliding ... away" limitation:



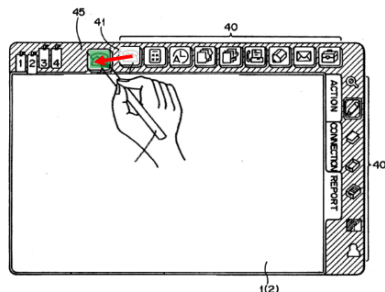
70. The Petition then argues that "[a] POA would have recognized Hirayama307 does not describe or show icon 41 ('representation') is dragged or otherwise relocated or duplicated during the movement of pen 3." Pet., 60. The Petition is incorrect.

71. I will now explain the operation of Hirayama-307, and why the selected icon (e.g., icon 41) is "relocated or duplicated" at least for a portion of the drag-and-

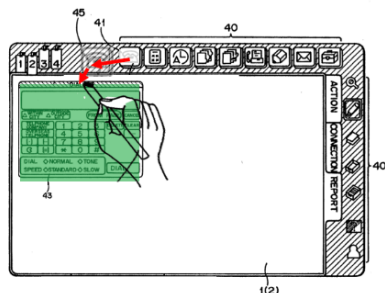
drop operation. For the convenience of the reader, my discussion is with reference to the schematics below, which I have prepared based on Hirayama-307's written description of its system:²



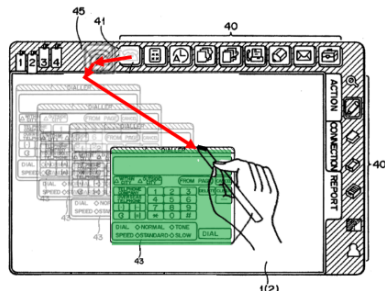
The stylus touches the icon the user wishes to "enlarge." Ex. 1003 [Hirayama-307] 2:1-4; 5:30-32.



While the stylus moves within hatched area 45, icon 41 moves with it. Ex. 1003 [Hirayama-307] 2:5-8; 5:39-53.



When the stylus moves outside of hatched area 45, icon 41 is "enlarged as a window 43." Ex. 1003 [Hirayama-307] 2:8-13; 5:59-66.



Enlarged window 43 is placed at the position where the stylus is lifted from the screen. Ex. 1003 [Hirayama-307] 2:8-13; 5:59-66.

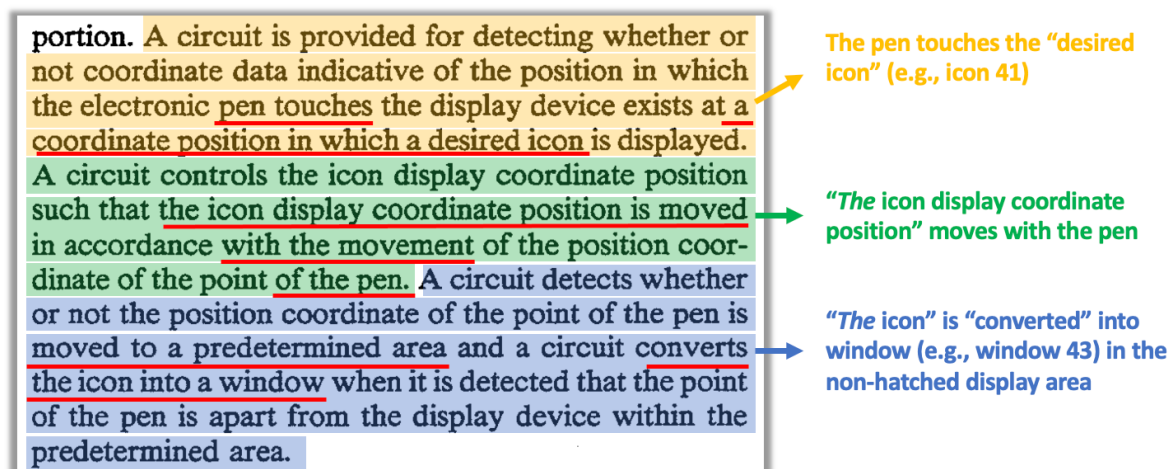
² The movement of the stylus in the figures is initially shown to the left, before the stylus is brought down into the non-hatched area, in order to more easily show the duplication/relocation of icon 41 while the pen is in the hatched area.

72. In order to utilize a particular application, the user has to drag the icon for that application from its location in the hatched area and drop it inside the non-hatched area at a location where the user wishes the enlarged window of the application to be located. For example, when the user wishes to use Hirayama-307's dialing application (represented by icon 41), the user moves the stylus to the application icon 41. Ex. 1006 [Hirayama-307] 2:1-4; 5:30-32. The user then must drag icon 41 into the non-hatched area of the screen. *Id.*, 2:5-8; 5:39-53. As the icon 41 is dragged outside of the hatched area, "a circuit converts the icon into a window." *Id.*, 2:8-13; 5:59-66 ("it is enlarged as a window 43"). The enlarged window 43 is then placed (*i.e.*, dropped) at the location within the non-hatched area where the user lifts the stylus. *Id.*, 2:8-13; 5:59-66.³

73. Hirayama-307 expressly discloses that as icon-41 is being dragged, and prior to its conversion into window 43, it moves with the movement of the pen 3. Specifically, as highlighted portion of Hirayama-307, 2:1-13 shows, the pen first touches the "coordinate position in which a desired icon [e.g., icon 41] is displayed" (yellow), then as the pen moves, "the icon [41] display coordinate position" moves

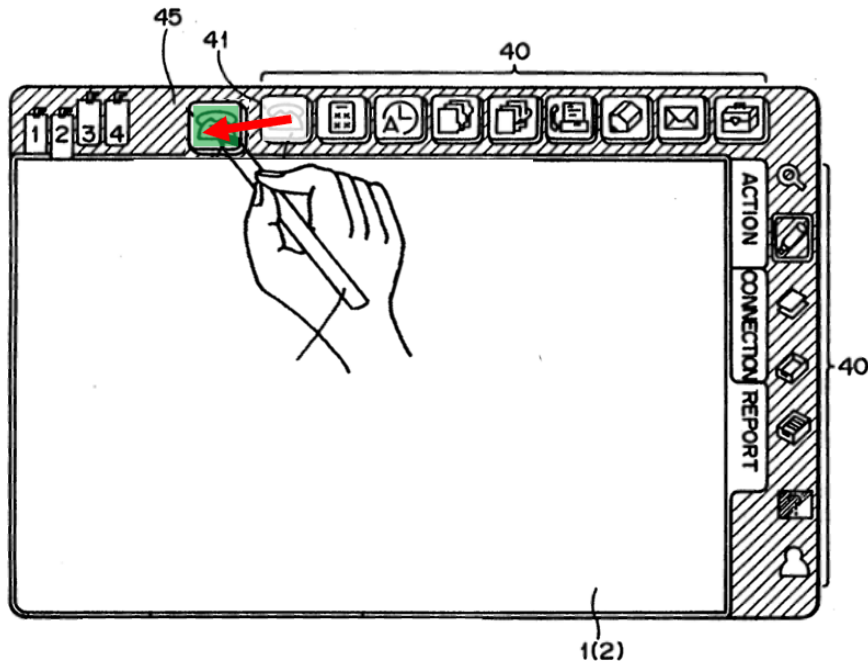
³ While Hirayama-307 provides both disclosures that the icon can be converted into a window either upon lift off of the pen (Hirayama-307, 2:8-13) or upon the pen leaving the hatched screen area (*id.*, 5:58-66), that distinction is not relevant here. For the purposes of this discussion, as discussed further below, the relevant fact is that Hirayama-307 is clear that icon 41 moves with the pen prior to being converted into a window.

with the pen (green), and then icon 41 is “convert[ed]” “into a window” (e.g., window 43) in the non-hatched display area (blue).



Ex. 1006 [Hirayama-307] 2:1-13

74. This relocation or duplication is schematically shown in the modified version of Hirayama's figure which depicts the green icon at the point of the red arrow is the "moving" location of the original icon 41 as it is being dragged:



75. Other disclosures in Hirayama-307 confirm the above. For example, Hirayama-307 also discusses a reverse operation, where an open window is dragged-and-dropped into its application icon position in order to close the window. *Id.*, 6:22-7:6; Fig. 4B. In discussing the reverse drag-and-drop operation for closing an open window, Hirayama-307 explains that the open window is dragged and dropped “to the predetermined *vacant* position,” referring to the position of the application icon corresponding to the window. *Id.*, 7:3-6; Fig. 4B (step S10). This disclosure confirms that application icon 41 was “relocated” when it was opened by the drag-and-drop operation as its location is now “vacant.” The location would not be “vacant” if the icon had not moved.

76. Furthermore, in the same reverse drag-and-drop to close an open window, Hirayama-307 similarly explains that “the window display coordinate position is moved in accordance with the movement of the position coordinate of the point of the pen.” Ex. 1006 [Hirayama-307] 2:24-27. This is precisely the reverse of the procedure to create a window 43, where the application icon 41 moves with the movement of the pen prior to its conversion into a window, *id.*, 2:5-8, demonstrating that Hirayama-307 takes the same approach to both operations.

77. It would also be common sense for the POSITA that Hirayama-307 would “relocate” icon 41 and leave its location vacant while its window 43 is open. Specifically, in the context of the small application icons of Hirayama-307, it may be challenging for the user to determine which specific one of the numerous application icons 40 corresponds to the currently open window, so that the open window can be dragged to the position of its corresponding application icon in order to close the window. Thus, Hirayama-307 appears to solve this problem by having the application icon position “vacant” while the application has an open window in order to let the user know that the vacant position corresponds to the currently open window.

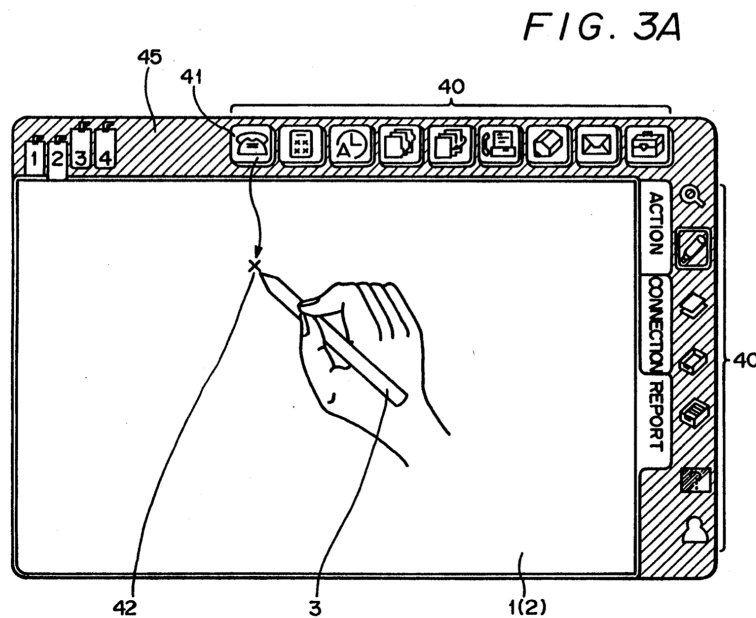
78. As yet another supporting disclosure, Hirayama-307 routinely states that the application window 43 is created by “enlarging” the dragged application icon 41. *See, e.g., id.*, 5:39-40 (“icon is enlarged in the form of window”); 5:64-66 (“the

processing display form of the icon 41 designated is enlarged as a window 43”); 7:14-15 (“the icon position to be enlarged”); 2:10-11 (“a circuit converts the icon into a window”). This disclosure further confirms that icon 41 is moved with the stylus/pen during the drag-and-drop process, and it is “enlarged” (or “converted”) into a window when the proper trigger happens. If the icon 41 did not move with the movement of the pen to then be “enlarged” or “converted” into window 43, Hirayama-307 would have referred to the process as “creating” or “opening” a window.

79. Furthermore, it is notable that there is no disclosure in the text of Hirayama-307 that *contradicts* its disclosures that the application icon is moved with the pen prior to being enlarged into the window. For example, Ex. 1006 [Hirayama-307] 5:16-67 explains the flow diagram of logical determinations of its drag-and-drop operation, but is silent on whether icon 41 is duplicated or moved during the dragging process within the hatched area.

80. As I explain below, Petitioners’ reliance on Hirayama-307’s Fig. 3A and its related text for the proposition that icon 41 is not relocated or duplicated during the drag-and-drop operation is misplaced. Pet., 60-61. A POSITA would understand that Fig. 3A represents the state of the device *before* icon 41 is being dragged. In connection with Figs. 3A and 3B, Hirayama-307 explains that “[i]f the pen coordinate is considerably shifted from the reference moving amount, or if the pen

coordinate is outside of the predetermined designated area (e.g., the hatched area in this embodiment),” then icon 41 is “enlarged as a window 43 as shown in Fig. 3B.” Ex. 1006 [Hirayama-307] 5:59-66. In Fig. 3A, however, the tip of the pen is both outside of the hatched area, and has considerably shifted as it is well into the active screen area, *but* there is no enlarged window:



Id., Fig. 3A. Thus, a POSITA would understand that if Fig. 3A was intended to show the state of the screen during a drag-and-drop operation, then it should have also shown an enlarged window 43. Instead, Fig. 3A only shows “a cross-shaped position designating cursor 42,” which is shown “as the point of the pen 3 approaches the panel surface of the display portion 1”—*i.e.*, before the pen has selected the icon 41 to initiate the process of drag-and-drop. *Id.*, 4:65-68.

81. Furthermore, the written description corresponding to Fig. 3A is clear that the figure is intended to show the state of the device at power-on, explaining that “*when the power switch 10 shown in Fig. 1 is depressed*, icon groups 40 which make various processing possible are displayed on the display portion 1 *as shown in FIG. 3A.*” Ex. 1006 [Hirayama-307] 4:58-61. Thus, even though Fig. 3A shows a pointed arrow from icon 41 to the location of the point of the pen, a POSITA would understand that the arrow is likely intended to show how the device is going to be operated on power-on, and not a depiction of the screen during a drag-and-drop operation.

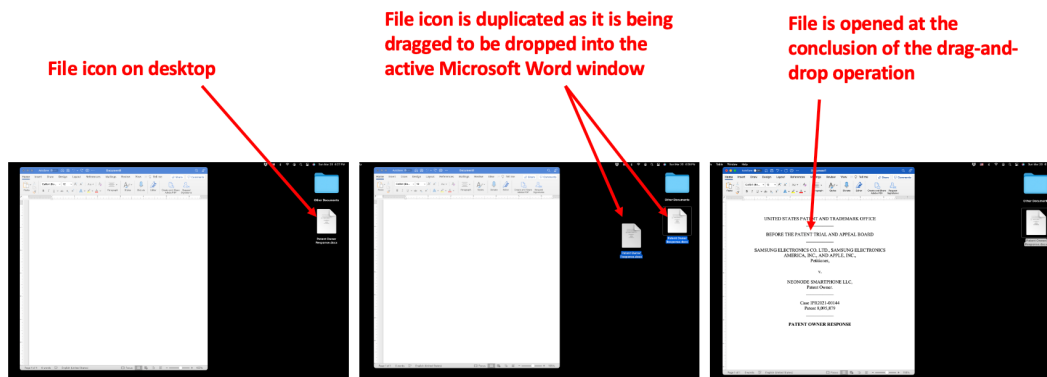
2. Obviousness In View Of Hirayama-307 Alone.

82. As I will explain below, a POSITA would not have been motivated to implement a drag-and-drop operation (such as Hirayama-307’s) without relocating or duplicating the icon being dragged during the drag process.

83. In graphical user interfaces, it is important to provide visual feedback to the user during an operation. This helps, for example, inform the user that the operation is in fact being successfully performed. It also helps design the graphical user interface as close as possible to real life experiences outside of the virtual world, and give the user a real-life “feel.” This is an important concept in GUI design. In the context of a dragging operation, this feedback mechanism was, and continues to be, generally provided by visually showing the icon being moved or duplicated

across the screen during the drag operation. This would help the user receive feedback that, as the user drags an icon with the mouse/stylus/finger, the icon is in fact being dragged and the drag-and-drop operation is successfully in progress. This would also help the user get a real life “feel” for the drag-and-drop operation by visually seeing an icon being dragged.

84. Further supporting the above, the visual presentation of a “dragging” icon was also common in both the Microsoft Windows and Macintosh MacOS environments. For example, the graphic below demonstrates a file icon being dragged into a blank Microsoft Word active window in a MacOS Monterey operating system, so that the file can be opened. As can be seen, while the file icon is being dragged, and before it is dropped into the active MS Word window to be opened, the file icon is duplicated:



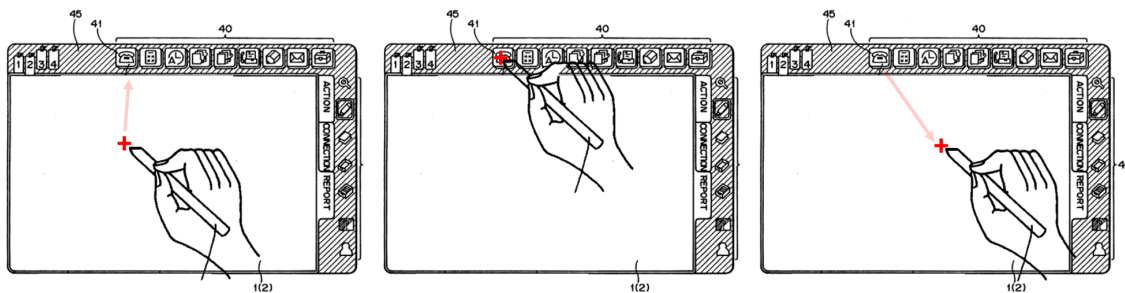
85. Thus, there simply is no reason for a POSITA to implement Hirayama-307’s drag-and-drop process, but avoid the industry-standard method of providing

user feedback by “relocating or duplicating” the icon during the drag-and-drop operation.

86. In relying on Hirayama-307’s cursor, Dr. Bederson appears to suggest that the cursor itself is the only feedback provided to the user during the drag-and-drop operation in Hirayama-307, and, therefore, there is no need to relocate or duplicate the icon 41 as it is being dragged. Ex. 1002 [Bederson-Decl.] ¶¶ 158-159. That is not correct. Hirayama-307’s text only discloses that the cursor appears on the screen “as the point of the pen 3 approaches the panel surface of the display,” Ex. 1006 [Hirayama-307] 4:65-68—*i.e.*, ***before*** the pen has started the drag-and-drop operation. In other words, the cursor is used to assist the user in moving the pen to the location of the icon, just as a mouse cursor on a desktop display moves on the screen to assist the user in locating the mouse pointer. Hirayama-307 does not state that the cross-shaped pointer continues to appear on the screen during the drag-and-drop operation instead of the image of the icon 41 actually being dragged. Rather, as noted above, Hirayama-307 states that icon 41 itself moves with the pen during the dragging process. *Id.*, 2:5-8.

87. Furthermore, a POSITA would understand that Hirayama-307’s cursor is insufficient to provide feedback to the user during the drag-and-drop operation, and that there is no motivation to eliminate the typical “relocation or duplication” of the icon during a drag-and-drop operation in reliance on the existence of the cursor.

This is because, even if Dr. Bederson was correct that the cursor appears on the screen during the drag-and-drop operation, the cross-shaped pointer *also* appears on the screen prior to the pen/stylus initiating the drag-and-drop operation. Ex. 1006 [Hirayama-307] 4:65-68. In other words, the appearance of the cross-shaped cursor does not denote to the user anything about the drag-and-drop operation, but simply that the pen is communicating with the screen, and the location of the tip of the pen. Thus, if all the user sees on the screen is a pen with a cross-shaped cursor after the user has initiated a drag-and-drop operation, the user would not know if the drag-and-drop operation is being successfully performed as the user drags the pen. All the user can learn from the position of the cursor is that the pen itself is moving across the screen. This is shown schematically below:



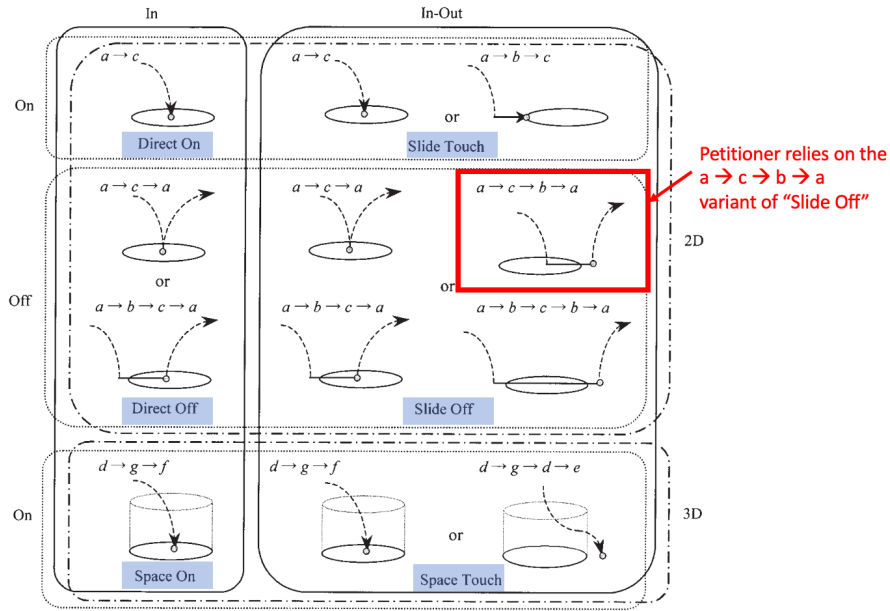
If the cursor is the feedback for Hirayama-307's drag-and-drop operation, the user in the right photo would not know if the initiated drag-and-drop operation is being successfully performed as the pen is dragged away from icon 41.

88. This is why, again, a cursor moving alone is typically insufficient to provide feedback for a drag-and-drop operation.

3. Obviousness By Hirayama-307 In View Of Ren

89. Petition also argues that “it would have been obvious to combine the teaching of Ren with Hirayama307” by “implement[ing] Ren’s selection techniques” in Hirayama-307’s device. Pet., 62. Petitioner proposes that a POSITA would have been motivated to utilize a specific variant of one of six categories of gestures disclosed by Ren instead of Hirayama-307’s drag-and-drop operation. Pet., 30-31, 62. As a preliminary matter, a POSITA would not have been motivated to implement a drag-and-drop operation in Hirayama-307 without “relocating or duplicating” as a form of feedback to the user, for the reasons already explained in the previous section. Furthermore, as explained here, a POSITA would not have been motivated to do so also in view of Ren.

90. Ren discloses six categories of selection strategies: Direct On, Slide Touch, Direct Off, Slide Off, Space On, and Space Touch. Ex. 1004 [Ren] 389-391. Under each of these general selection strategies, Ren discloses one or more variants. *Id.* The Petition relies on a specific variant of the “Slide Off” category, referred to as “a \rightarrow c \rightarrow b \rightarrow a.” Ex. 1002 [Bederson-Decl.] ¶¶ 160-161. Ren’s six selection categories (blue), and the specific gesture relied upon by Petitioner (red), are shown below in the annotated Fig. 3 from Ren:



91. The Petition proposes the following reason to substitute Hirayama-307's drag-and-drop operation with a variant of Ren's Slide-Off strategy:

For example, Ren and Hirayama307 both are directed to solutions to the same problem, namely target selection techniques in pen-based tablet systems. As another example, a POSA would have recognized Ren as disclosing a small number of selection techniques that would have been obvious to try and implement with pen-based GUI interaction systems.

Pet., 62. Petitioner is incorrect.

92. Hirayama-307 sets out to create a pen-based operation that can replace two mouse clicks required in mouse-operated systems to enlarge a desired window and place it at a desired location on the desktop. Ex. 1006 [Hirayama-307] 1:14-35. Thus, as previously explained, Hirayama-307 discloses a drag-and-drop operation where the pen touches a desired icon, drags the icon from the hatched area to the

non-hatched area of the screen, and drops the enlarged icon at the location where the user desires to place it on the screen. *Id.*, 5:16-6:21.

93. There is no apparent deficiency in Hirayama-307 that a combination with Ren would remedy and Petition cites none. In fact, as explained below, the Petition's proposed combination only deteriorates Hirayama-307. Specifically, Petitioner proposes that a POSITA would have combined Hirayama-307 with Ren so that Hirayama-307's drag-and-drop would not "relocate or duplicate" icon-41 during the dragging process. Pet., 62. However, as explained, the user feedback of relocating or duplicating an icon during the drag of a drag-and-drop operation was, and continues to be, significant as also implemented by main-stream systems such as MS Windows and MacOS and eliminating user feedback would worsen the user's experience.

94. As I will explain now, Petitioner's "obvious-to-try" rationale is similarly incorrect. First, the assumptions that there are only six (or a similarly small) number of possible selection gestures such that a POSITA would set out to try all possible gestures is incorrect. I note that Ren states that "[t]heoretically, an infinite range of selection strategies exists." Ex. 1004 [Ren] 6. Nor has Petitioner provided any reason as to why a POSITA would be motivated to try all possible gestures so that I can analyze and respond.

95. Furthermore, even in the context of selection techniques disclosed by Ren, a POSITA would not have been motivated to specifically utilize the “ $a \rightarrow c \rightarrow b \rightarrow a$ ” variant of the “Slide-Off” strategy as Ren expressly states that, both objectively and subjectively, another strategy, “Slide Touch,” is superior.

96. Ren performed two sets of experiments “to determine the best individual strategy and the best strategy group.” Ex. 1004 [Ren] 392-93. At the conclusion of the two experiments, Ren unambiguously determined that the “Slide Touch” strategy—not the “Slide Off” strategy relied upon by Petitioner—is the “single best strategy”:

4.4.2 The Best Individual Strategy and Best Strategy Group. The Slide Touch strategy is the best of the individual strategies. When the results for Experiment One and Experiment Two were compared in simple pairs we found that the Slide Touch Strategy was the best strategy [Ren and Moriya 1997b; 1999]. The post hoc Tukey HSD test showed that, in Experiment One, the Slide Touch was indeed the best strategy. In Experiment Two, Tukey’s test showed that the Slide Touch, Slide Off, and Space Touch strategies were all better with no significant difference, but considering the (Tukey) results of Experiment One and that in both Experiments the Slide Touch strategy had the highest subject preferences, we concluded that the Slide Touch strategy is the single best strategy.

Ex. 1004 [Ren] 412.

Experiment One identified the best of the six individual strategies by comparing the strategies individually and by groups. These results, when combined with Experiment Two data, showed that the best strategy was the Slide Touch strategy when the strategies were evaluated individually, and the best strategy group was the *In-Out* strategy group when evaluated in groups. Furthermore, differences between strategies are influenced by variations in target size; however, they are not affected by pen-movement-distance and pen-movement-direction.

97. Ex. 1004 [Ren] 412. Ren’s overall conclusions are also supported by the underlying results from its experiments. For example, as shown in the reproduction of Ren’s Figs. 5 and 11, with respect to “Mean Selection Time,” Petitioner’s relied upon “Slide Off” strategy (red) came in third in the first (left) experiment and fifth in the second (right) experiment:

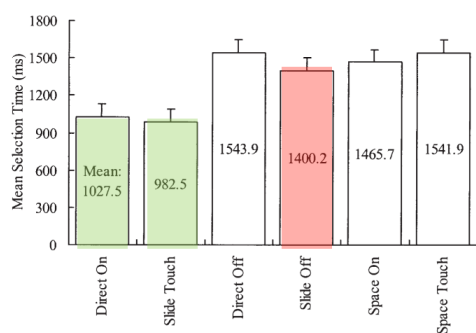


Fig. 5. Mean selection times (with standard error bars) for each individual strategy in Experiment One.

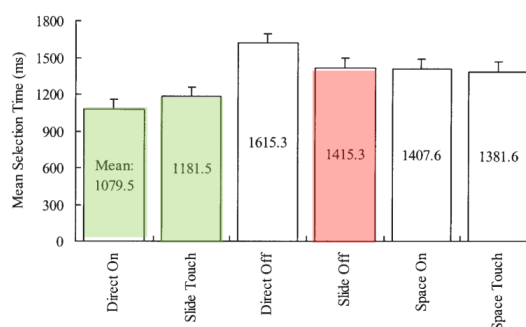


Fig. 11. Mean selection times for each strategy in Experiment Two.

98. Similarly, as shown in the reproduction of Ren’s Figs. 6 and 12, with respect to “Mean Error Rate,” Petitioner’s relied upon “Slide Off” strategy (red) came in third in both the first (left) and second (right) experiments:

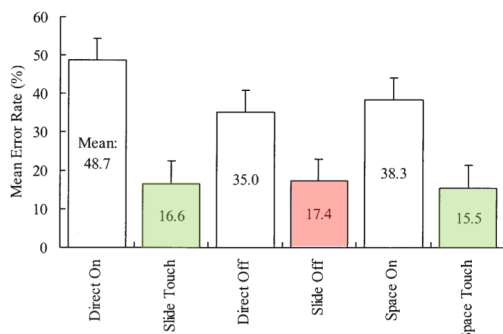


Fig. 6. Mean error rates for each individual strategy in Experiment One.

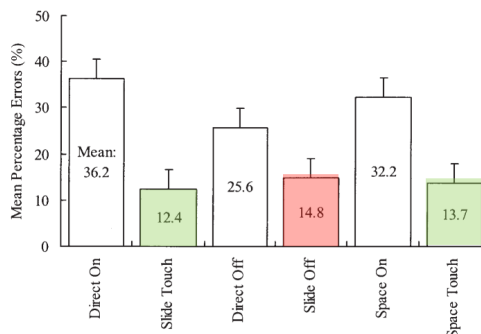


Fig. 12. Mean error rates for each strategy in Experiment Two.

99. Finally, in addition to Ren finding objective superiority of the “Slide Touch” strategy to the exclusion of Petitioner’s relied upon “Slide Off,” Ren also

found similar subjective preference by the users. In experiment 1, the users had a clear preference for “Slide Touch” when object sizes were relatively small. *Id.*, 401-402; Fig. 9. When the object sizes were relatively larger, “Slide Touch” and “Slide Off” were statistically tied. *Id.* “Slide Touch” was the overall preferred method under the first experiment. *Id.*, 402-403 (“... the Slide Touch strategy was the most preferred”). Similarly in the second experiment, “the Slide Touch strategy was the most preferred.” *Id.*, 409.

100. Another reference relied upon by Petitioner (Allard) supports Ren’s conclusion. Allard also uses the strategy referred by Ren as “Slide Touch.” Specifically, in Allard, the button that is last touched by the user is the button that is selected when the user lifts the stylus off the screen, whether the stylus originally landed outside of the button on the screen or on the button itself. Ex. 1010 [Allard] 5:39-44. In fact, Allard explains that using the Slide-Touch strategy is preferred because “a user can easily recover from touching an unintended button by leaving a finger on the screen and sliding to another button or a non-button area.” *Id.*, 5:45-54.

V. CONCLUSION

101. For the foregoing reasons, based on my expertise and experience and the record of this case that I have reviewed, it is my opinion that the Challenged Claims are not shown to be disclosed or obvious.


102. I understand that my opinions discussed above support a legal conclusion that the challenged claims are nonobvious.

In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required, I will appear for cross-examination within the United States during the time allotted.

I hereby declare that all statements made herein of my own knowledge are true and all statements made herein on information and belief were and are believed by me to be true, and that all statements herein were and are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that any such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Respectfully submitted,

Dated: March 25, 2022



Craig Rosenberg, Ph.D.